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(51) International Patent Classification ⁶ : A01N 59/16, G01N 21/45, A61L 15/18, 31/00, A61F 13/00	A3	(11) International Publication Number: WO 98/41095 (43) International Publication Date: 24 September 1998 (24.09.98)
(21) International Application Number: PCT/CA98/00102 (22) International Filing Date: 17 February 1998 (17.02.98) (30) Priority Data: 08/818,869 17 March 1997 (17.03.97) US (71) Applicant (for all designated States except US): WESTAIM TECHNOLOGIES INC. [CA/CA]; 10102 - 114 Street, Fort Saskatchewan, Alberta T8L 3W4 (CA). (72) Inventors; and (75) Inventors/Applicants (for US only): BURRELL, Robert, Edward [CA/CA]; 52055, R.R. 221, Sherwood Park, Alberta T8E 1C6 (CA). PRECHT, Roderick, John [CA/CA]; 13143 - 34 Street, Edmonton, Alberta T5A 3K1 (CA). (74) Agent: McKAY-CAREY, Mary, Jane; McKay-Carey & Company, 2125 Commerce Place, 10155 - 102nd Street, Edmonton, Alberta T5J 4G8 (CA).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 11 March 1999 (11.03.99)
(54) Title: ANTI-MICROBIAL COATINGS HAVING INDICATOR PROPERTIES AND WOUND DRESSINGS		
(57) Abstract <p>Multilayer anti-microbial materials formed to produce an interference colour, and thus an indicator of anti-microbial effect, are provided. The materials include a partly reflective base layer and a partly reflective, partly transmissive top layer balanced to produce an interference colour. The top layer is formed from an anti-microbial metal with atomic disorder. Dissolution or a change in composition of the top layer on contacting an alcohol or electrolyte causes a change in optical path length so as to produce a change in the interference colour of the material. Multilayer, laminated wound dressings are also provided. The dressing includes a first and second layer, and preferably a third layer. The first and third layers are formed of perforated, non-adherent materials and most preferably carry an anti-microbial coating as above. The second layer is sandwiched between the first and third layers and is formed of an absorbent material. At least one of the layers is formed from a plastic material. The layers are laminated together by ultrasonic welds spaced intermittently on the dressing to allow the dressing to be cut to size with delaminating.</p>		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 98/00102

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A01N59/16 G01N21/45 A61L15/18 A61L31/00 A61F13/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A01N A61L A61F G01N B29C B32B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 95 13704 A (WESTAIM TECHNOLOGIES INC ;BURRELL ROBERT EDWARD (CA); APTE PRASAD) 26 May 1995 see the whole document	1-46
X	see page 17, line 14 - page 18; examples 1,6,7,13,22 & US 5 454 886 A cited in the application	1,9-14, 22-26
A	WO 93 23092 A (WESTAIM TECHNOLOGIES INC ;BURRELL ROBERT EDWARD (CA); MORRIS LARRY) 25 November 1993 see the whole document see page 9, line 26 - page 10, line 27; examples 1,6,7,13	1-46
X	---	1,9-14, 22-26
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search

12 January 1999

Date of mailing of the international search report

21. 01. 99

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

Interr 1st Application No

PCT/CA 98/00102

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 395 300 A (ALCAN INT LTD) 31 October 1990 see the whole document & US 5 124 172 A cited in the application ---	1-46
A	EP 0 430 608 A (SQUIBB & SONS INC) 5 June 1991 see page 2, line 20 - page 3, line 15 ---	1-46
A	DATABASE WPI Week 88201988 Derwent Publications Ltd., London, GB; AN 88-136448 XP002070661 & JP 63 078051 A (TEIJIN LTD) see abstract ---	1-46
A	WO 92 11043 A (Q LIFE SYSTEMS INC) 9 July 1992 see page 1 - page 6 ---	1-46
A	EP 0 255 248 A (MINNESOTA MINING & MFG) 3 February 1988 see page 2 - page 4, line 13 ---	1-46
X	GB 2 132 939 A (WYCOMBE MARSH PAPER MILLS LTD) 18 July 1984 see page 1, line 19 - line 22 see page 1, line 46 - line 60 see page 2, line 10 - line 29; claims ---	27
Y	GB 2 281 212 A (ROBINSON & SONS LTD) 1 March 1995 see page 1 - page 3 see page 4, last paragraph - page 5, paragraph 1 ---	27
Y	GB 2 298 612 A (BRITISH UNITED SHOE MACHINERY) 11 September 1996 see page 1, line 1 - line 33 see page 2, line 36 - page 3, line 9 see page 2, line 6 - line 19 see page 4, paragraph 16 - paragraph 30 ---	27
A	GB 2 121 355 A (POWNALL DAVID) 21 December 1983 see page 1, line 4 - line 38 see page 1, line 125 - page 2, line 1 ---	27-29

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INTERNATIONAL SEARCH REPORT

Inter national Application No

PCT/CA 98/00102

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 030 302 A (JUD WILFRIED ET AL) 9 July 1991 see column 1, line 10 - line 21 see column 2, line 14 - line 68 see column 4, line 18 - line 39; figures 1,2</p> <p>-----</p>	27-29

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 98/00102

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-26 and 30-46 (all completely),
27-29 (all partially)

A multilayer antimicrobial material comprising:

- a) a base layer capable of generating interference colour when covered with a partly reflective, partly transmissive top layer,
 - b) such a top layer in a interference colouring generating thickness, having a refractive index different from that of the base layer, containing an antimicrobial metal in sufficient atomic disorder to provide in contact with alcohol or water based electrolytes a localized antimicrobial effect;
- a process for producing such a multilayer antimicrobial material
- a wound dressing comprising a layer coated with said multilayer antimicrobial material

2. Claims: 27-29 (all partially)

A multilayer, laminated wound dressing, comprising:

- a) a first layer of a perforated, non-adherent material
 - b) a second layer of an absorbent material
- the first and second and optional third layer, of which at least one is of a plastic material, are laminated together by ultrasonic welds spaced intermittently on the dressing so as to allow the dressing to be cut down in size without causing delamination.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 98/00102

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Information on patent family members

International Application No

PCT/CA 98/00102

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